

Work Order ID 145248

Thursday, May 05, 2016 9:21:49 AM

Page 1

B *145248*

Item ID: D2600-5-108

Revision ID:

Item Name: Extrusion 'I Beam' thin

Start Date: 5/6/2016 Start Qty: 40.00

Required Date: 5/27/2016 Req'd Qty: 40.00

Reference:

26th Accept
240 MAY 12 2016

N900040100

Setup Start *NS1*

Stop *NS2*

40
DAS
13
9-89
40

Cust Item ID:

Customer:

Approvals: Process Plan: MCS Date: MAY 05 2016 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2600	E

100	PURCHASING	0.00							DAS 13 9-89
-----	------------	------	--	--	--	--	--	--	-------------------

100

Purchasing

Purchasing

Memo

Issue P/O: 32351

a) Extrude as per Dwg D2600 (108" long)

b) Material: 6061-T6

c) Material certification is required.

EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

110	Receive & Insp for Damage & Mat'l Certs	0.00
-----	---	------

110

Packaging

Packaging

Memo

Ensure certification is attached

0.80

26th 5/16-7-25

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

Work Order ID 145248

Thursday, May 05, 2016 9:21:49 AM

145248

Page 2

Item ID: D2600-5-108

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Extrusion 'I Beam' thin

Start Date: 5/6/2016 Start Qty: 40.00

40

Cust Item ID:

Required Date: 5/27/2016 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
120									DAS
QC	Memo	0.00							9
Quality Control	2-Check Pull test per Dwg D2600 for compliance page attached. 3-Check hardness with Webster tester								9-89
130	Identify as per dwg & Stock Location: <u>hall</u>	0.00							
130									
Packaging	Memo	0.40							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	4.00							
Quality Control									

264 16-03-02 DAS
9
9-89264 16-8-3 JH/R.L.DAS
21
9-89 AUG 04 2016DAS
21
9-89 AUG 03 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Thursday, May 05, 2016 9:21:53 AM

Page 1

Work Order ID: 145248

145248

Parent Item: D2600-5-108

D2600-5-108

Parent Item Name: Extrusion 'I Beam' thin

Start Date: 5/6/2016

Required Date: 5/27/2016

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP F02.09.10Added DSK 066KJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-5-108P		Purchased	No			110	Each	0.0000	1	240		MAY 12 2016	3
D2600-5-108P													
Extrusion 'I Beam' Thin													

**

264x 8p/6-7-25

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
				OTHER : _____					

SPECIFICATION CONTROL DRAWING

D2600-X-XXX EXTRUSION

NOTES:



- 1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI
 MINIMUM ULTIMATE TENSILE STRENGTH = 40 KSI
 MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N & B/N PER DART QSI 044 6.1 (FINE POINT PERMANENT INK MARKER)
- 7) WEIGHT: D2600-1 = 0.078 lb/in, D2600-3 = 0.130 lb/in, D2600-5 = 0.045 lb/in, D2600-7 = 0.091 lb/in
- 8) NO TOOLING MARKS
- 9) FOR D2600-1, PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH (EX. D2600-1-160 IS 160" LONG).
 D2600-1 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MH-18870
 - SIGNATURE ALUMINUM (BON-L) DIE # 897121
- 10) FOR D2600-3, PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH (EX. D2600-3-120 IS 120" LONG).
 D2600-3 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MH-18859
 - SIGNATURE ALUMINUM (BON-L) DIE # 897122
- 11) FOR D2600-5, PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH (EX. D2600-5-108 IS 108" LONG).
 D2600-5 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MS-18871
- 12) FOR D2600-7, PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH (EX. D2600-7-125 IS 125" LONG).
 D2600-7 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MS-18872

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE

WORK ORDER
 145248 MJS
 16-05-05

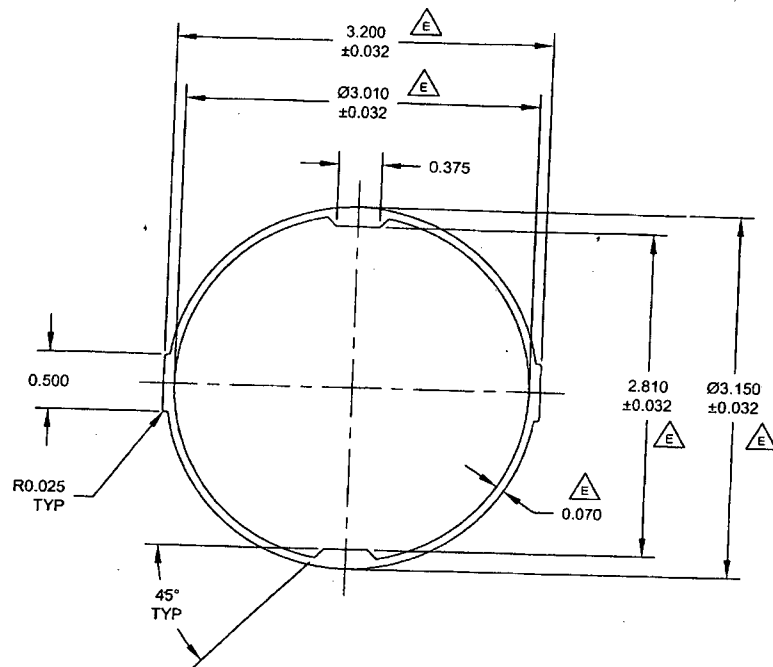
RELEASED
 2012-01-11

E	REFORMAT DWG; ALL DIMS & TOL. UPDATE TO MATCH MFG DIE DWGS; ADD ASTM B221 SPEC (D8-1)	CP	11.10.18
D	INCREASE MIN. UTS TO 40 KSI	DS	98.08.20
C	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	DS	98.04.16
B	CHANGE MATERIAL SPEC.	DS	97.09.09
A	NEW ISSUE	DS	97.01.21
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.10.18		

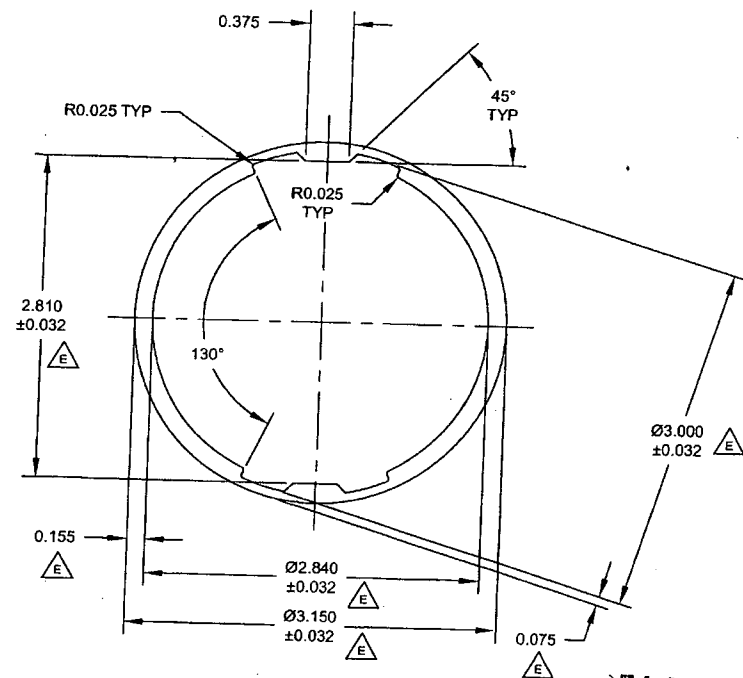
DART AEROSPACE LTD
 HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. E
 D2600 SHEET 1 OF 3
 TITLE SCALE
 EXTRUSION NTS

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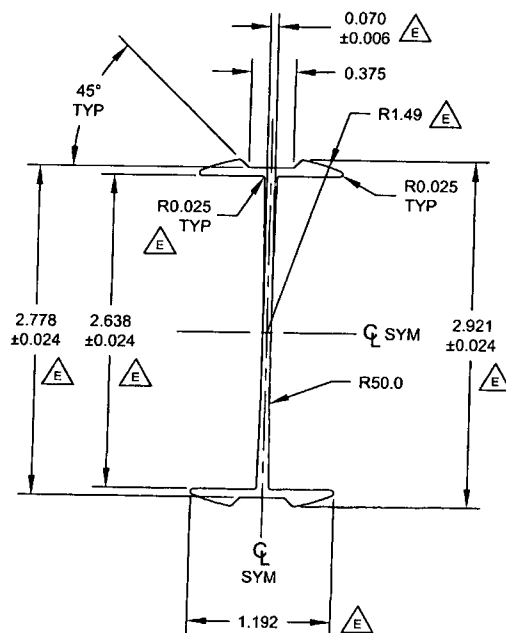
D2600-1 EXTRUSION



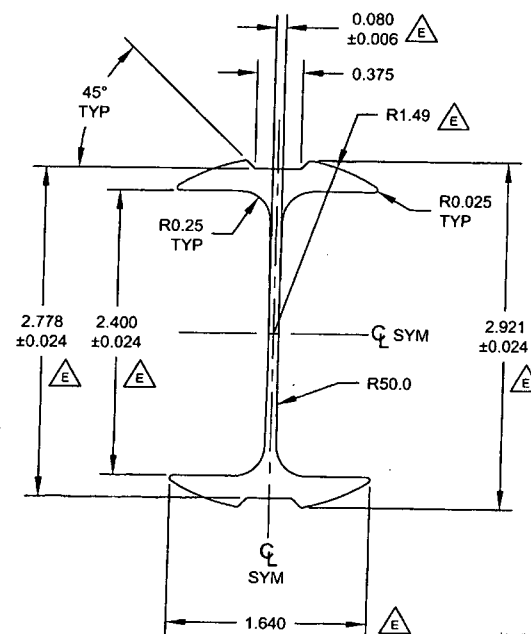
D2600-3 EXTRUSION

RELEASED
2012-01-11

DESIGN	4	DART AEROSPACE LTD	
DRAWN	DP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	E	D2600	SHEET 2 OF 3
APPROVED	MAN	TITLE	SCALE
DE APPR.	##	EXTRUSION	NTS
DATE	11.10.18	COPYRIGHT © 1997 BY DART AEROSPACE LTD	
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D2600-5 EXTRUSION



D2600-7 EXTRUSION

RELEASED
2012-01-11

DESIGN	4	DART AEROSPACE LTD	
DRAWN	9	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	EL	D2600	SHEET 3 OF 3
APPROVED	#	TITLE	SCALE
DE APPR.	#	EXTRUSION	NTS
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ACE

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO32351

Purchase Order Date 5/12/2016 10:32:08 AM

PO Print Date 5/12/2016

Page Number 1 of 2

Order From :

VC-SAP001

SAPA CANADA INC
C/O M91634
P.O. BOX 11634 SUCCURSALE CENTRE VILLE
MONTREAL, QUEBEC H3C 5Y9
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED

Contact Name

Vendor Phone 877-922-7272

Buyer

Chantal Lavoie

MAY 12 2016

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Ship To Contact

Ship To Phone

Ship Via: Dart Truck

Ship Acct:

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D2600-5-108P	Extrusion 'I Beam' Thin	6/1/2016 Yes 6/1/2016		240.00 Each	\$10.23	\$2,455.00
EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES NICKS OR DENTS AS PER DWG D2600 REV. E B145248 MATERIAL: 6061-T6 AS PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221 CUT TO LENGHT 108" LONG DIE # MS-18871 <i>Recu 2600X</i> <i>5/16-7-25</i> DAS 9 9-89							

Line Total:

\$2,455.00

Note:

5/12/2016

sapa:

Adresse Postale: Sapa Canada, Inc
325, rue Avro
Pointe-Claire Québec H9R 5W3
Téléphone: (514) 697-5120
Télécopieur: (514) 694-8310

Packing Slip / Détail de Livraison

Packing Slip No /
Bon de Livraison 65730

Order no /
Commande 6050729 1

Ship to/Expédiée à DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY, ONT K6A1K7	Sold to/Vendu à DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY, ONT K6A1K7	Special Instr / Instr. Spéciales
---	--	----------------------------------

Cust No/No du Client 201355	Cust No/No PO du Client 32351	PPD/PAYÉ X	Ord Dte/Dte Comm 16/05/13	Our Ord Dte/ Notre Dte la Comm 16/05/13	Sapa G.S.T #: R857314058
---------------------------------------	---	----------------------	-------------------------------------	--	------------------------------------

PST/TPV *6122-5207	Terms/Cond	Date Required/ Date Requite	Shipped/ Expédiée 16/07/21	Shipped Via/ Expédiée Par OTTAWA 22 JUIL
------------------------------	------------	--------------------------------	---	--

Item No	Ordered Weight Pcs/ Commande Poids Pcs	Sapa Die no/ Matrice d'Sapa	Customer Description/ Description de Client	Alloy & Temper/ Alliage et Trempage	Length Longueur	Backorder Wgt Pcs Arrière Poids Pcs	This Shipment Bdls Wgt Pcs Com Expédiée Ballots Poids Pcs
------------	---	--------------------------------------	--	--	--------------------	--	--

1	500 240		DUE = 2016/07/08 ASAP D-2600-5 LIGHT DUTY MS 18871 D2600-5-108P 6061 T6 2743 MM BUNDLE = 1252249 1252258				2 528 264 POIDS EN KGS
We hereby certify that the material supplied meets the properties as published by the Aluminum Association, and requirements of our Quality procedures							

Aluminum Extrusions - Anodizing - Fabrication - Painting
Profils D'Aluminum - Anodisation - Fabrication - Peinture

The above items were received in good order.
Les articles ci-dessus ont été reçu en bon ordre.

By/Par

Sonia Payfe 16-7-25

325 rue Avro
Pointe-Claire, QC, Canada H9R 5W3
Téléphone (514) 697-5120
Fac-simile (514) 694-8310

sapa:

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**
Adresse / Address : **1270 ABERDEEN STREET
HAWKESBURY ONT,
K6A 1K7**

commande Sapa / Sapa order # : **6050729**

bon de commande / Purchase order # : **32351**

de matrice / Die # : **MS 18871**

Description : **D-2600-5 LIGHT DUTY WEB**

Alliage & trempage / Alloy & temper : **6061 T6**

Customer Part # : **D2600-5-108P**

Contrôle / Control # : **69353-2**

Coulée / Cast # : **66476**

	Min.requis Min.required	Résultat actuel Actual results
Tension ultime Ultimate stress (psi)	38 000	39 200
Contrainte élastique Yield stress (psi)	35 000	35 100
% élongation dans 2" % elongation in 2"	8	11
Dureté Rockwell E (hre) Rockwell E Hardness (hre)	88 @ 100	92

Composition chimique typique / Typical chemical composition :

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6063	0,20 - 0,60	0,35 Max	0,10 Max	0,10 Max	0,45 - 0,90	0,10 Max	0,10 Max	0,10 Max
6005	0,60 - 0,90	0,35 Max	0,10 Max	0,10 Max	0,40 - 0,60	0,10 Max	0,10 Max	0,10 Max
6005A	0,68 - 0,72	0,15 - 0,27	0,08 - 0,12	0,20 - 0,24	0,48 - 0,52	0,03 Max	0,05 Max	0,03 Max
6061	0,40 - 0,80	0,70 Max	0,15 - 0,40	0,15 Max	0,80 - 1,20	0,04 - 0,35	0,25 Max	0,15 Max
6351	0,7 - 1,3	0,5 Max	0,10 Max	0,40 - 0,80	0,40 - 0,80	---	0,20 Max	0,20 Max

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme ASTM B-221-14 excepté pour la section 8.2 (nombre de spécimen).

*Elongation mesuré après rupture.

We hereby certify that the material supplied meets the chemical properties as published by the ASTM B-221-14 except for section 8.2 (number of specimen).

*Elongation taken after fracture.

Sincèrement vôtre,
Yours truly,

Date : **2016-06-30**



Gilles Pelletier
Technicien de la qualité
Quality technician

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D2600-S-103

PO / BATCH NO.: P032351-B/45243

DATE: 16-03-02

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: _____

QUANTITY RECEIVED: 264

THICKNESS RECEIVED: _____

QUANTITY INSPECTED: _____

SHEET SIZE ORDERED: _____

QUANTITY REJECTED: _____

SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	☒ N	
CORRECT FINISH	☒ Y	N	
CORROSION	Y	☒ N	
CORRECT GRAIN DIRECTION	☒ Y	N	
CORRECT MATERIAL	☒ Y	N	
CORRECT THICKNESS	☒ Y	N	
PHOTO REQUIRED	Y	☒ N	
CORRECT MATERIAL	☒ Y	N	ASTM B-221
CORRECT REF # TO LINK CERT	☒ Y	N	P032351
CORRECT MATERIAL IDENTIFICATION	☒ Y	N	
CORRECT M# ON THE MATERIAL	☒ Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>[Signature]</u>	SIGNED OFF BY: _____
DATE: <u>16-03-02</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASE ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN **20pcs** FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE2.....) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER